

Figure 1. Leaf cells of *Trichosteleum friedense*. —A. SEM image showing the presence of single papilla over the lumen of some cells. —B. SEM image showing the single marginal papilla cited by Norris and Koponen (1985).

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# *Strobilanthes ovata* (Acanthaceae), a New Species from Gaoligong Shan in Yunnan, China

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**ABSTRACT.** A new species, *Strobilanthes ovata* Y. F. Deng & J. R. I. Wood (Acanthaceae), is described and illustrated. The new species is another endemic species from Gaoligong Shan in southwest Yunnan similar to *S. decipiens* J. R. I. Wood, but differs in its glabrous leaves, winged rachis, the distant, spicate flowers, and the ovate, oblong-ovate, or rounded bracts.

**Key words:** Acanthaceae, China, IUCN Red List, *Strobilanthes*.

Gaoligong Shan is a 600-km-long, high-elevation mountain range that straddles the border between Yunnan Province in China and Kachin State in Burma (Myanmar) over much of its length. This range is situated at the heart of a vast biodiversity hotspot under severe threat of destruction through human activity (Li et al., 2000; Myers et al., 2000; Stotz et al., 2003; Chaplin, 2005; Liu & Kress, 2005). In the past 10 years, a biodiversity survey in the Gaoligong Shan was conducted jointly by the Kunming Institute of Botany, Chinese Academy of Sciences (KUN), and the California Academy of Sciences (CAS) to study the flora of this area. More than 30,000 collections were made and several new species were found (Yi & Li, 2001; Li & Li, 2002; Wang, 2008; Li & Hu, 2009). Among them, two new species of *Strobilanthes* Blume, *S. lihengiae* Y. F. Deng & J. R. I. Wood and *S. euantha* J. R. I. Wood, have been described by us (Wood et al., 2003a; Deng et al., 2006). In the course of identifying specimens of Acanthaceae from Gaoligong Shan, we found another new species of *Strobilanthes* characterized by its winged inflorescence rachis and ovate inflorescence bracts. The new species is described and illustrated below.

***Strobilanthes ovata*** Y. F. Deng & J. R. I. Wood, sp. nov. TYPE: China. Yunnan: Baoshan Shi, Longyang Qu, Lihuipo, summit of Gaoligong Shan, 2100 m, 17 Nov. 2000, *Li Heng with Dao Zhilin & Yin Liwei 13101* (holotype, KUN; isotype, CAS). Figure 1.

Species nova *Strobilanthis decipientis* J. R. I. Wood affinis, sed ab ea foliis glabris, floribus distantibus in rhachim alatum dispositis, bracteis ovatis oblongo-ovatis vel orbiculatis et bracteolis oblanceolatis differt.

Perennial herb, 30–40 cm tall; *stems* with a narrow wing up to 0.75 mm wide on each side, glabrous, densely covered with cystoliths. *Leaves* petiolate near the base, becoming sessile apically; petioles of lower leaves 3–5 mm, glabrous; blades of lower leaves 2–5 × 1–2 cm, ovate-elliptic, glabrous, apex acuminate, margin crenate to crenate-serrate, base decurrent; blades of upper leaves 2–3 × 1.2–2.3 cm, cordate, glabrous, apex acuminate, base cordate, margin crenate to crenate-serrate; all leaf blades with cystoliths prominent on both surfaces, paler abaxially with prominent veins covered by cystoliths, lateral veins in 2 to 4 pairs. *Inflorescence* of spikes terminal on main stem or on branches arising from the uppermost leaf axils, 1–7 cm; rachis narrowly winged, pilose with multicellular hairs, some gland-tipped; *bracts* ovate, oblong-ovate, or rounded, 3–7 × 1–5 mm, pubescent; *bracteoles* oblanceolate, ca. 5 × 1 mm, apex rounded, subglabrous to pilose with multicellular hairs, some gland-tipped; *calyx* subglabrous when immature, becoming glandular-pilose on the margin, weakly 2-lipped, the upper lip 8–10 mm, 3-lobed, lobes triangular, 5–7 mm, connate for ca. 3 mm above base,

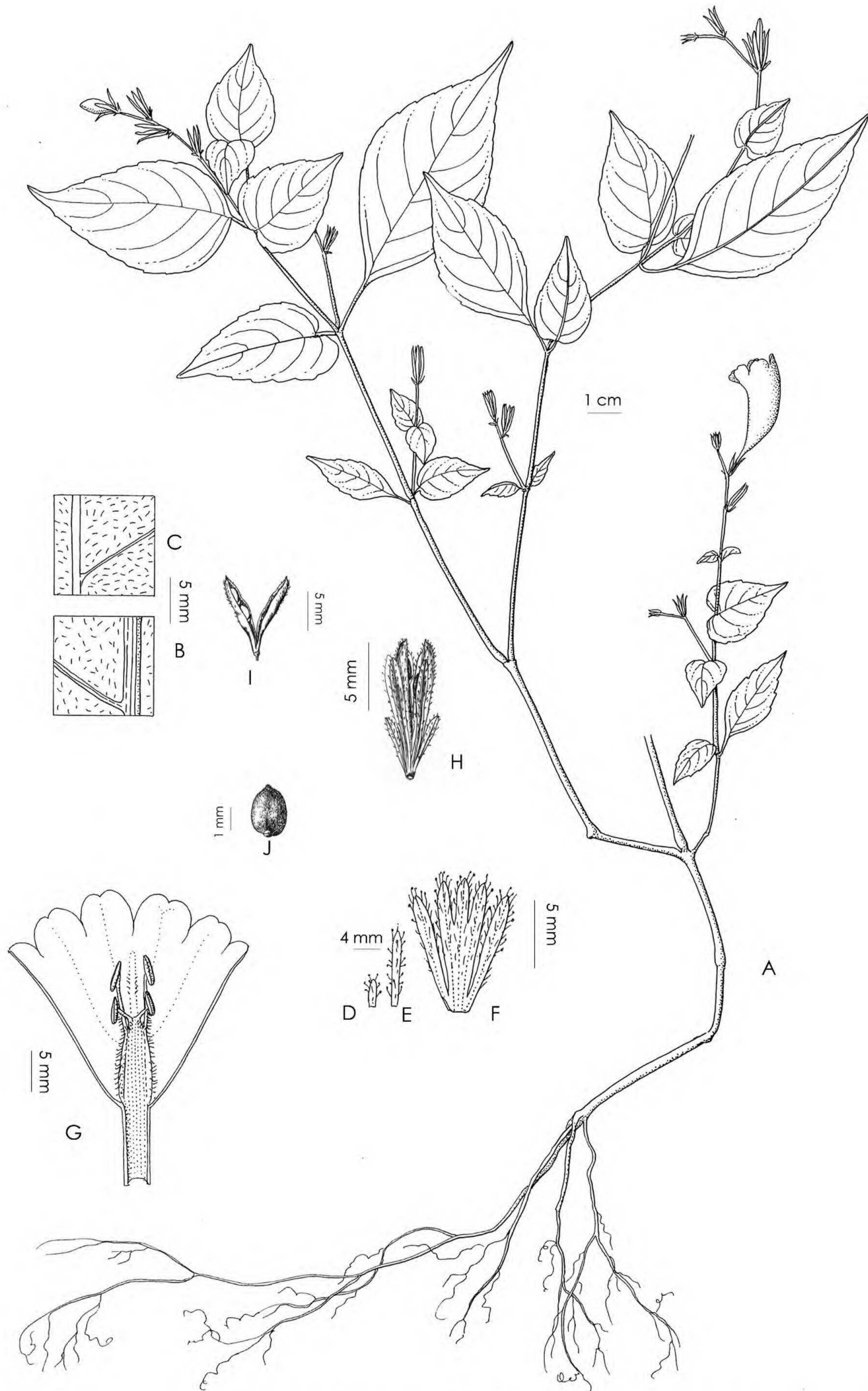


Figure 1. *Strobilanthes ovata* Y. F. Deng & J. R. I. Wood. —A. Habit. —B. Leaf blade, abaxial surface. —C. Leaf blade, adaxial surface. —D. Bract. —E. Bracteole. —F. Calyx. —G. Corolla opened to show stamens. —H. Fruiting calyx. —I. Capsule. —J. Seed. A–G drawn by Rosemary Wise from the type *Li Heng, Dao Zhilin & Yin Liwei 13101* (CAS); H–J drawn by Liu Yunxiao from the paratype *Xin Haijing 39* (IBSC).



Figure 2. SEM image of pollen of *Strobilanthes ovata* Y. F. Deng & J. R. I. Wood. Pollen sampled from *Zhou Xuan 553* (KUN).

lower lip 2-lobed almost to the base, the lobes 9–10 mm, linear-oblongate to subspatulate, obtuse; *corolla* light blue, 3–3.5 cm, gently curved, subventricose, outside glabrous, inside glabrous except for trichomes retaining the style, base cylindrical, ca.  $10 \times 2$  mm, then gradually widened to ca. 1.3 cm at mouth, subequally 5-lobed, lobes ovate, ca.  $4 \times 4$  mm; *stamens* 4, didynamous, included; filaments of the longer pair ca. 5 mm long, pilose below, the shorter pair ca. 2 mm long, glabrous; anthers oblong, ca.  $2 \times 1$  mm; pollen ellipsoid, tricolporate,  $76.8 \times 40$   $\mu\text{m}$ , polar axis (P):equatorial diameter (E) = 1.92, ribbed, bireticulate, pseudocolpi 12, scalariform (Fig. 2); *ovary* oblong, ca. 2 mm, comose at tip; *style* ca. 2.2 cm, sparsely pilose. *Capsules* narrowly oblong-ellipsoid, ca.  $12 \times 2$  mm, glabrous except for glandular pubescence at tip, 4-seeded; *seeds* ovate or suborbicular, ca.  $3 \times 2$  mm, pilose with mucilaginous hairs.

*Distribution and habitat.* *Strobilanthes ovata* was found in southeast and northwest Yunnan, China, growing in moist forest at altitudes from 1800 to 2100 m.

*IUCN Red List category.* There have been no comprehensive field surveys of populations of *Strobilanthes ovata*, so this species should be classified as Data Deficient (DD) according to IUCN Red List criteria (IUCN, 2001). Further field research may provide a more precise conservation assessment in the future.

*Phenology.* The new species was observed in flower from October to February, with fruiting from December to March.

*Etymology.* The species epithet was derived from the Latin “ovatus,” meaning “ovate,” and refers to the ovate inflorescence bracts.

*Relationships.* *Strobilanthes ovata* is similar to *S. decipiens* J. R. I. Wood, but differs in its glabrous leaves (vs. densely pilose), winged rhachis (vs. wingless), distant flowers (vs. imbricate), and ovate, oblong-ovate, or rounded bracts (vs. obovate) (Wood & Scotland, 2003b). It also bears some resemblance to *S. rubescens* T. Anderson in its glabrous leaves that are whitish abaxially and in the sessile upper leaves, but it can be easily distinguished by the glandular-pilose indumentum of the calyx.

*Paratypes.* CHINA. Yunnan: Baoshan Shi, Longyang Qu, Lihuipo, 16 Nov. 2000, *Li Heng with Dao Zhilin & Yin Liwei 13171* (CAS, KUN); Baoshan Shi, Longyang Qu, Lihuipo, 23 Jan. 2008, *Deng Yunfei 20458* (IBSC); Baoshan Shi, Longyang Qu, Lihuipo, 29 Sep. 2008, *Xin Haijing 39* (IBSC); Honghe Xian, *Shui Yumin 94008A* (KUN); Jinping Xian, s.d., *Dept. of Biology, Yunnan University s.n.* (KUN); Luchun Xian, way to Laobian, 2200 m, 19 Oct. 1971, *Tao Deding 1095* (KUN); Tengchong Xian, 1959, *Zhou Xuan 553* (KUN).

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